

What is claimed is:

1 1. A computer program product for automated e-business services, the computer program
2 product embodied on one or more computer-readable media of a first computing system and
3 comprising:

4 computer-readable program code means for reading a specification of an e-business
5 service; and

6 computer-readable program code means for processing the specification to carry out the
7 e-business service, further comprising:

8 computer-readable program code means for receiving one or more input
9 documents for the e-business service; and

0 computer-readable program code means for performing one or more of: (1)
1 transforming the input documents into other documents, according to transformation information
2 that may be provided in the specification, and (2) operating upon the input documents and/or the
3 other documents to create one or more new documents, according to operating actions that may
4 be provided in the specification.

1 2. The computer program product according to Claim 1, further comprising computer-
2 readable program code means for forwarding the other documents and/or the new documents to a
3 computing system other than the first computing system.

1 3. The computer program product according to Claim 1, wherein the specification and the
2 input documents are encoded in a structured markup language.

1 4. The computer program product according to Claim 1, wherein the other documents and
2 the new documents are encoded in a structured markup language.

1 5. The computer program product according to Claim 3 or Claim 4, wherein the structured
2 markup language is a language known as “the Extensible Markup Language (XML)” or a
3 derivative thereof.

1 6. The computer program product according to Claim 1, wherein the computer-readable
2 program code means for operating upon the input documents and/or the other documents further
3 comprises:

4 computer-readable program code means for invoking one or more software-implemented
5 processes; and

6 computer-readable program code means for coordinating results of the invocations.

1 7. The computer program product according to Claim 6, further comprising computer-
2 readable program code means for repetitively executing the computer-readable program code
3 means for processing, until reaching a final result of the e-business service, wherein the other
4 documents, the new documents, and/or the coordinated results of the invocations now function as
5 the input documents.

1 8. A system for automated e-business services, comprising:

2 means for reading a specification of an e-business service; and
3 means for processing the specification to carry out the e-business service, further
4 comprising:
5 means for receiving one or more input documents for the e-business service; and
6 means for performing one or more of: (1) transforming the input documents into
7 other documents, according to transformation information that may be provided in the
8 specification, and (2) operating upon the input documents and/or the other documents to create
9 one or more new documents, according to operating actions that may be provided in the
10 specification.

1 9. The system according to Claim 8, further comprising means for forwarding the other
2 documents and/or the new documents to a computing system other than the first computing
3 system.

1 10. The system according to Claim 8, wherein the specification and the input documents are
2 encoded in a structured markup language.

1 11. The system according to Claim 8, wherein the other documents and the new documents
2 are encoded in a structured markup language.

1 12. The system according to Claim 10 or Claim 11, wherein the structured markup language is
2 a language known as “the Extensible Markup Language (XML)” or a derivative thereof.

1 13. The system according to Claim 8, wherein the means for operating upon the input
2 documents and/or the other documents further comprises:

3 means for invoking one or more software-implemented processes; and
4 means for coordinating results of the invocations.

1 14. The system according to Claim 13, further comprising means for repetitively executing the
2 means for processing, until reaching a final result of the e-business service, wherein the other
3 documents, the new documents, and/or the coordinated results of the invocations now function as
4 the input documents.

1 15. A method performed by one or more computers for automated e-business services,
2 comprising steps of:

3 reading a specification of an e-business service; and
4 processing the specification to carry out the e-business service, further comprising steps
5 of:

6 receiving one or more input documents for the e-business service; and
7 performing one or more of: (1) transforming the input documents into other
8 documents, according to transformation information that may be provided in the specification, and
9 (2) operating upon the input documents and/or the other documents to create one or more new
10 documents, according to operating actions that may be provided in the specification.

1 16. The method according to Claim 15, further comprising the step of forwarding the other
2 documents and/or the new documents to a computing system other than the first computing
3 system.

1 17. The method according to Claim 15, wherein the specification and the input documents are
2 encoded in a structured markup language.

1 18. The method according to Claim 15, wherein the other documents and the new documents
2 are encoded in a structured markup language.

1 19. The method according to Claim 17 or Claim 18, wherein the structured markup language
2 is a language known as “the Extensible Markup Language (XML)” or a derivative thereof.

1 20. The method according to Claim 15, wherein the step of operating upon the input
2 documents and/or the other documents further comprises steps of:
3 invoking one or more software-implemented processes; and
4 coordinating results of the invocations.

1 21. The method according to Claim 20, further comprising the step of repetitively executing
2 the processing step, until reaching a final result of the e-business service, wherein the other
3 documents, the new documents, and/or the coordinated results of the invocations now function as
4 the input documents.

1 22. A method of conducting business by using automated e-business services, comprising
2 steps of:
3 reading a specification of an e-business service; and
4 processing the specification to carry out the e-business service, further comprising steps
5 of:
6 receiving one or more input documents for the e-business service; and
7 performing one or more of: (1) transforming the input documents into other
8 documents, according to transformation information that may be provided in the specification, and
9 (2) operating upon the input documents and/or the other documents to create one or more new
10 documents, according to operating actions that may be provided in the specification.

1 23. A method of defining e-business process and data interactions, further comprising steps of:
2 defining data inputs to be used by an e-business service;
3 defining interactions to be carried out when operating the e-business service;
4 specifying details of the data inputs in a structured markup language syntax;
5 specifying details of the interactions in the structured markup language syntax; and
6 creating one or more e-business service definition documents wherein the specified details
7 of the data inputs and the specified details of the interactions are recorded.

1 24. The method according to Claim 23, wherein the structured markup language is a language
2 known as “the Extensible Markup Language (XML)” or a derivative thereof.

1 25. A method of defining process and data interactions for an application described by a finite
2 state machine, further comprising steps of:
3 defining data inputs to be used by the application;
4 defining interactions to be carried out when operating the application;
5 specifying details of the data inputs in a structured markup language syntax;
6 specifying details of the interactions in the structured markup language syntax; and
7 creating one or more application definition documents wherein the specified details of the
8 data inputs and the specified details of the interactions are recorded.

1 26. The method according to Claim 25, wherein the structured markup language is a language
2 known as “the Extensible Markup Language (XML)” or a derivative thereof.

1 27. A method performed by one or more computers for automating data and process
2 interactions between a first application and one or more other applications, comprising steps of:
3 providing one or more application definition documents encoded in a structured markup
4 language, wherein the application definition documents specify the interactions and one or more
5 data inputs to be used in the interactions, and wherein details of the specified interactions and data
6 inputs are specified in the structured markup language; and
7 processing the application definition documents to carry out the data and process
8 interactions.

1 28. The method according to Claim 27, wherein the step of processing the application
2 definition documents further comprises steps of:
3 receiving one or more input documents to be used by the interactions; and
4 performing one or more of: (1) transforming the input documents into other documents,
5 according to transformation information that may be provided in the application definition
6 documents, and (2) operating upon the input documents and/or the other documents to create one
7 or more new documents, according to operating actions that may be provided in the application
8 definition documents.

1 29. The method according to Claim 28, further comprising the step of forwarding the other
2 documents and/or the new documents to from one or the computers to another of the computers.

1 30. The method according to Claim 27, wherein the structured markup language is a language
2 known as “the Extensible Markup Language (XML)” or a derivative thereof.